

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF PHYSICS

Microwave Spectroscopic Identification of
Atmospheric Contaminants

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Status Report
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Submitted by Gordon E. Jones
Principal Investigator

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The purpose of this investigation is to employ the unique features of microwave spectroscopy in an attempt to furnish a simple and direct means of identification of small amounts of trace gases. The first phase of this work is the cataloging of the microwave spectra of gases which might possibly contaminate the atmosphere of a closed space capsule.

This first status report covers the period from September 1965 to March 1966. Because the equipment required for the research has not been delivered, this is a report only on the preparative aspects of the investigation.

Two of our best Master's degree candidates have been selected to assist the principal investigator. Their research on this project shall provide the basis for their Master's theses. One of these students has been awarded a Research Assistantship amounting to \$3000.00 a year, which is to be paid by the grant.

An order of the amount \$29,850 has been placed with Hewlett-Packard Company for equipment. Delivery has been promised by late May.

Preliminary study has begun. Compilation of a complete and comprehensive bibliography of all work done on molecules which might be of interest has been started. Such a bibliography shall prove valuable to us and to interested personnel at Langley Research Center.

Ample space in the building housing the Physics Department has been allocated for the investigation.